WaterSMART Drought Response Program: Drought Resiliency Projects for Fiscal Year (FY) 2024

Notice of Funding Opportunity (NOFO): R24AS00007

TECHNICAL PROPOSAL (NOFO D.2.2.2)

Title: Eugene Construction Aggregate and Public Greenspace Class A Recycled Water Facilities Project

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Executive Summary

The Metropolitan Wastewater Management Commission (MWMC) is administrated out of Springfield, Oregon and operates a regional wastewater treatment facility in Eugene, Oregon, both co-located in Lane County. The MWMC is eligible for WaterSMART funding as a local wastewater commission with recycled water delivery authority and a proposed recycled water use project that improves wastewater infrastructure to increase water supply availability and reliability. The project has a funding need of $4,000,000 and will be completed within three years. As such, the MWMC is a Task Area A, Category A, Funding Group III applicant.

The MWMC operates a Water Pollution Control Facility located along the Willamette River in Eugene, Oregon to treat regional wastewater to high-quality standards for discharge to the river or for reuse as a recovered resource. Under this project, the MWMC will upgrade existing infrastructure for water filtering, disinfection, and storage, and add pumping and distribution capacity to deliver up to 1.3 million gallons per day of Class A recycled water for public works and industrial uses, thereby launching a new water source capability for drought mitigation and other beneficial uses. The MWMC's partners include local construction aggregate companies, City of Eugene Parks and Open Space division, and Eugene Water and Electric Board (EWEB). The project is identified in the Eugene-Springfield Multi-Jurisdictional Natural Hazards Mitigation Plan. The Eugene/Springfield area has experienced increasing frequency and intensities of drought over the past 20 years, including three extreme droughts in the past 10 years. The project will divert treated wastewater from river discharge to beneficial uses and reduce temperature impacts on the Willamette River's salmon rearing and spawning habitat by reducing warm water discharges and retaining more freshwater instream flows in the Willamette and McKenzie Rivers through reduction on water withdrawals.

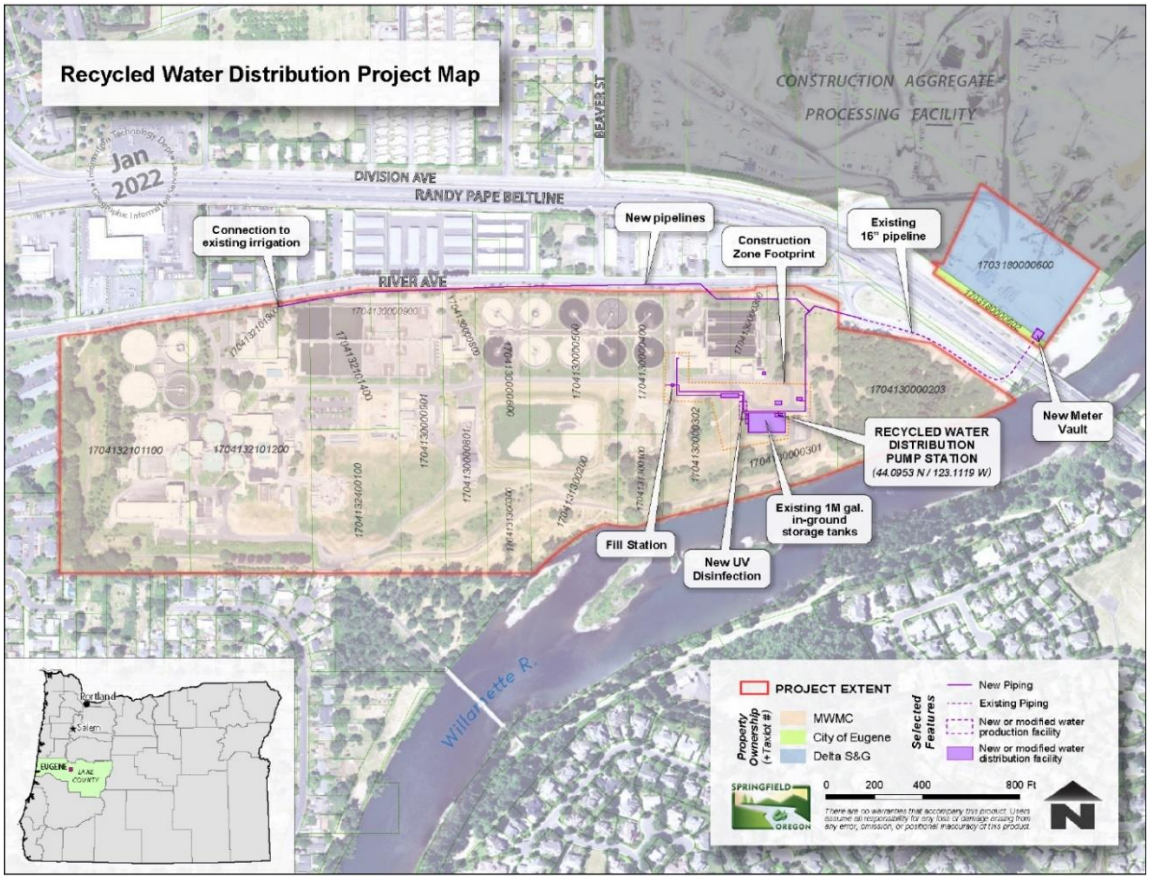
The project's construction period is estimated to run from November 2024 through April 2026. Pre-construction procurement and bidding will start in mid-April 2024, and final project implementation will be completed by October 2026, for a total expected project duration of 30.5 months. No work will be located on or involve federal lands.

The MWMC provides wastewater treatment services to the regional Eugene/Springfield metropolitan area of approximately 250,000 people and is a partnership of the Cities of Eugene and Springfield and Lane County, Oregon. The MWMC treats an average of 25 million gallons per day (MGD) of wastewater during non-wet weather conditions. This project would divert approximately 5% of that flow for high-quality, community recycled water use. Peak demand water supplies from drinking water utility EWEB and industrial water rights holders is approximately 63 MGD. This project would offset up to 2% of peak demand. EWEB's current available water rights are 78.8 MGD. This project is projected to provide 490 acre-feet of water supply annually, with a 10-year annual average after system expansion to 850 acre-feet, providing critical drought relief benefits to the regional water supply.

Project Location

This project is located in Eugene, Oregon at the MWMC's Water Pollution Control Facility (WPCF) located at 410 River Avenue, Eugene, OR 97404. The Class A recycled water pumping facilities will be located at approximately Latitude/Longitude (in decimal degrees): 44.09527778 / 123.11194444. This location is in Lane County in the Upper Willamette Basin watershed (HUC

17090003). The included Recycled Water Distribution System Map below shows the site details, tax lots, and vicinity location.



Project Description

The primary purpose of this project is to launch long-term, reliable Class A recycled water use in the Eugene/Springfield community as a drought resiliency mechanism beginning through industrial aggregate use. Class A recycled water is the highest quality of recycled water under Oregon rules and is suitable for virtually any non-drinking water use and is therefore a valuable water supply resource. The project relies on upgrades to the MWMC's facilities to produce Class A quality water; after treatment this project provides new storage, pumping, and distribution infrastructure for use at construction aggregate facilities and public greenspace.

Recycled water use feasibility for construction aggregate has been determined in the MWMC's Industrial Aggregate Recycled Water Use Feasibility Study (MWMC, June 2013). That study identified the need to produce Class A recycled water at initial volumes for the most readily feasible applications to allow for rapid future growth and system investments. The feasibility issues for Class A recycled water production were thoroughly evaluated, and recommendations for design needs were made, under the MWMC's Conceptual Design Report – Class A Recycled Water Facilities (Kennedy Jenks Consultants, February 2021). Copies of both documents can be made available upon request.

The project adds significant new recycled water infrastructure to the MWMC's regional treatment plant, including 1.3 MGD (2 cfs) of ultra-violet (UV) disinfection channels and pumping capacity and 1.0 million gallons of storage. New distribution lines will connect this infrastructure directly to the construction aggregate facilities via an existing 3.5 MGD capacity buried pipeline and via new onsite piping to the WPCF 28-acre grounds and tanker truck fill station. The truck fill station will provide flexibility in distributing water where it is best used for city street tree watering and other park/greenspace uses.

Significant excavation, piping, concrete, electrical, and mechanical work is necessary for the project. The impacted footprint is entirely within a small area on existing, formerly disturbed WPCF property. Much of the work required involves upgrading and retrofitting existing filtration and storage facilities and connection to existing distribution pipelines.

This new water source will achieve multiple water resource benefits, including (1) reduction of thermal load and nutrients from discharges of treated, cleaned wastewater to the Willamette River, (2) securing of an industrial water source to ensure local aggregate and construction needs are met during times of drought, (3) conserving drinking water resources by maintaining public greenspaces with recycled water, and (4) retaining freshwater flows in the Willamette and McKenzie Rivers by reducing withdrawals for needs otherwise met by recycled water. This important infrastructure increases the community's water resources long-term reliability (in times of drought), effectiveness (through prudent use of alternative water sources), availability (both by reducing demand on freshwater supplies and by providing a new source of recycled water), and awareness of the importance and value of recycled water to our environment, economy, and community livability.

Performance Measures (NOFO D.2.2.2.1)

Several performance measures will be adopted to quantify project benefits, largely related to recycled water quantities produced and used. Measures will include:

a. Percent treated flow meeting Class A standards. Finished water that does not meet specifications will be diverted and recirculated for treatment or discharged with plant effluent. After successful startup and operation this metric should exceed 90%.

b. Total daily quantity of recycled water produced. The project will be capable of 1.3 MGD flow rates but will be run at lower capacities or intermittently until the 1.0-million-gallon storage facility is at optimal levels for distribution.

c. Total daily quantity of recycled water used. During peak uses, the MWMC expects 1.0 MGD or more of total use. The more consistent and longer the use, the more long-term benefits to water management can be calculated.

d. Maximum daily flow rate of recycled water used. The system will be designed for peak treatment rates of 1.3 MGD. The system will be capable of pumping shorter term higher peak flow rates to the construction aggregate facilities as needed.

Evaluation Criteria (NOFO D.2.2.2.2)

Evaluation Criterion A—Project Benefits (NOFO E.1.1)

Sub-criterion A1: Available Water Supplies and Water Better Managed (NOFO E.1.1.1)

Sub-criterion A1.a Adds to Available Water Supplies

Long-Term Resilience to Drought

This project creates a new water resource for the Eugene-Springfield community by producing Class A recycled water– a highly-treated, recovered wastewater resource suitable for nearly all non-potable water use needs (refer to OAR 340-055-0012 (7)). Once operational, the system will be a permanently available resource for the community well-positioned to expand in scale, both in quantity and geography. The project useful life is projected at 20 years, based on standard wastewater engineering planning lifespans.

Additional Water Supply Represented

This project will provide new water supply equivalent to 5% of the average water demand and 2% of the peak water demand on the local river systems relied on for providing water to the users in the project area. This is calculated based on the maximum expected daily use of the project at 1.3 MGD compared to available average water supply of and peak water supplies of 68 MGD under current water rights and infrastructure limitations.

The Eugene Water and Electric Board (EWEB) provides finished drinking water to the Eugene community and is the source for current irrigation water to be supplied by this project. EWEB holds water rights under the Oregon Department of Water Resources (OWRD) for withdrawing water from the McKenzie River. EWEB's total capacity and historical usage is described in EWEB's Water Management and Conservation Plan (WMCP; GSI Water Solutions, July 2018, [ATTACHMENT E]) as follows:

- Total water proven water rights: 78.8 MGD
- Pumping intake capacity: 100 MGD
- Finished water treatment capacity: 80.5 MGD
- Historical average use: 25.2 MGD (WMCP p. 2-6, Exhibit 2-3)
- Historical average peak day use: 52.5 MGD
- Projected current peak day use: 60 MGD (WMCP p. ES-12, Exhibit ES-5)
- Projected future peak day use: 65 MGD

While EWEB's water portfolio provides the community with assurances of water for future growth and development, expansion of the drinking water supply places stressors and costs on the river ecosystem and local infrastructure demands. For this project, maximum EWEB capacity is deemed to be 65 MGD. Average demand is 25.2 MGD.

The construction aggregate companies hold water rights for withdrawing water from the Willamette River. Industry capacity and usage is as follows:

- Total combined water rights: 7.5 MGD
- Maximum 12-hour operational pumping capacity: 3.7 MGD
- Maximum day historical use: 2.75 MGD

- Theoretical daily maximum demand: 3 MGD
- OWRD deemed consumed water right (not returned to river): 10% = 0.3 MGD

For this project, total maximum industrial water capacity is deemed to be 3 MGD. During seasonally lower demand days, the plants operate at approximately 50% capacity of maximum for a total "average" flow of 1.5 MGD. During river low flow and drought conditions, the water rights are at risk, and at minimum, the 10% consumptive water use of 0.275 MGD requires an alternate water source. However, severe drought could jeopardize the entire water right.

The total water supply for the project therefore total to:

- 26.7 MGD average
- 68 MGD peak flow

Additional Water Supply Provided: 10-Year Annual Benefit

The MWMC estimates that the project will yield an average 10-year annual benefit of seasonal use at 1.3 MGD totaling 238 million gallons equal to 850 acre-feet.

This benefit was calculated at the maximum production rate of 1.3 MGD over an anticipated 6-month minimum period of use from May 1 through October 31 (183 days), totaling 238,000,000 gallons. The maximum production rate was used to represent the 10-year projected average recycled water supply based on initial startup lower rates of 0.5 to 0.75 MGD ramping up over 5 years to 1.3 MGD, followed by a designed second bank of 1.3 MGD for a total of 2.6 MGD capacity by year 10. The latter years of higher capacity will balance out the initial startup years of lower use to average 1.3 MGD.

- **Provide a qualitative description of the degree/significance of the benefits associated with the additional water supplies.**

Significance of Additional Water Supply Benefits

The additional water supply provided under this project has multiple degrees of significance:

a) It provides a reliable source of water during times of drought to one the area's leading suppliers of construction aggregate, which is an important economic contributor to the rapidly growing Eugene/Springfield area and reduces the expense and demand on developing other alternative water supplies for their operations.

b) It reduces demand on drinking water supplies for urban tree watering, which currently comes from tapping fire hydrants, a practice which introduces more risk to reduced water pressure and cross-contamination. Recycled water use reduces peak demand on drinking water during the dry season and reduces the need to withdraw as much water from the river to meet those needs.

c) It reduces drinking water usage and costs to the MWMC for onsite irrigation needs over 12.7 acres of public greenspace.

d) These water offset practices will result in keeping more freshwater instream, where cooler water benefits aquatic species including salmon.

Sub-Criterion A1.b: Water Better Managed

This sub-criterion does not apply to this Task A project.

Sub-criterion A2: Environmental & Other Benefits (NOFO E.1.1.2)

Sub-criterion A2.a: Climate Change

Natural Hazard Risk Reduction Benefits

Recycled water availability for industrial and public greenspace maintenance will avoid water rationing or restrictions during drought. Healthy City of Eugene street trees and green infrastructure are critical elements to mitigate for other climate impacts like excessive heat (urban heat islands), fire risk (due to parched vegetation), and conversely, winter flood events (by providing healthy soils and vegetation cover to absorb and slow runoff).

Renewable Energy Nexus

This project does not establish or produce energy. However, both this proposed wastewater reuse project and the MWMC's operational Renewable Natural Gas project follow the MWMC's Strategic Plan emphasizing key out comes of protecting the environment through cost effective and innovative use of resources to improve water quality and protect the environment through partnerships and community education. Furthermore, the project design considerations included assessment and selection of UV disinfection over chemical chlorine addition, in part due to the lower carbon footprint lifecycle of the alternatives.

Carbon Sequestration Benefits

An indirect benefit of making recycled water available for urban irrigation uses, especially for green infrastructure, is ensuring ample water supply during droughts to establish and maintain thriving trees and other vegetation, which may increase the amount of carbon sequestered by the plants. Recycled water contains nutrients which are proven beneficial to robust plant growth. Studies in Santa Rosa, California, and elsewhere indicate nitrogen content in recycled water is 25 times that of drinking water sources, supplying over 15% of the nitrogen needs of a mature tree – therefore being significant for new tree establishment.

This project will expand initial street tree watering, after public introduction, to over 2,000 newly establishing street trees maintained by City of Eugene personnel (currently over 1,800 new street trees are planted, and the city is rapidly expanding plantings to meet carbon reduction and climate goals). The organization Trees for the Future calculates one species of tree at 2.5 years old sequesters 21.5 lbs of CO_2 per year. Assuming a 15% added nutrient benefit increases growth and sequestration to approximately 3.2 lbs CO_2 per year, across 2,000 new trees the potential benefit is estimated to be over 6,000 lbs (3 tons) CO_2 sequestered per year.

Green Infrastructure and Climate Resilience Attributes

A key advantage of the project is climate resiliency for drought mitigation and management of freshwater resources. These attributes fall under multiple benefits:

- Resource Recovery and Resiliency. This project establishes recycled water use for the community via recovery of wastewater resources, a sustainable resource practice recognized by Oregon Department of Environmental Quality as a green project. This new water supply is specifically being developed for its drought resiliency benefits.
- Watershed Restoration. The MWMC is a partner in watershed restoration efforts to increase riparian shade through native tree plantings and reduce overall heat input on the river, as well as to improve habitat functions and overall water quality. Recycled water use may be important for establishing and maintaining such restoration projects during summer periods and drought, including offsetting water uses on remote project sites.
- Green Infrastructure. The MWMC is also a member of the Urban Waters and Wildlife Partnership, a collaborative of local governments, drinking water utilities, and watershed and conservation organizations. This project will include opportunities to irrigate critical urban green infrastructure with recycled water to provide better stormwater management, heat island reduction, and water quality improvements.
- Urban Forestry. A premier complement to the use of recycled water under this project is for the City of Eugene Urban Forestry Program. Eugene's Climate Action Plan 2.0 includes the goal to increase city tree canopy cover from 22 to 30 percent by the year 2030. In addition to increased use of recycled water and therefore reduced demand on freshwater resources, the Urban Forestry's street tree program will alleviate heat island affects (especially in currently under-served portions of the community), improve soil health and infiltration capacity, provide habitat and ecosystem benefits, and improve urban livability factors.

Mitigation of Climate Related Air and Water Pollution.

The Class A Recycled Water Facilities project has long been identified as a wastewater management strategy to reduce temperature impacts to the Willamette River from warmer, treated wastewater effluent flows. An indirect asset of recycling water is offsetting freshwater withdrawals, thereby maintaining more cool water instream, which will be important as climate change trends are for longer, warmer, drier, summer seasons. Class A recycled water is a higher standard of recycled water then the MWMC currently produces. Class A recycled water is a highly-treated water resource which increases the application possibilities of reuse with high-quality water.

Promotion of Healthy Lands/Soils or Protection of Water Supplies through Conservation/Management Components.

There is no direct linkage to water supply and soils protection from the project. However, those assets were considered in the triple bottom line evaluation of project alternatives. Partnering with Eugene Urban Forestry through this project has positive land use and health benefits. The MWMC collaborates with formal partnerships to protect, conserve, and restore watershed and urban waterway attributes. Recycled water use may be immediately employed in some of these partnership endeavors and is envisioned to be more formally integrated over time once this project is implemented. This project does aim to preserve freshwater supplies through diversion of treated wastewater from the river for recycled water applications, in turn maintaining more freshwater instream that would have been withdrawn for those uses.

Other Climate Change Resiliency Contributions.

The MWMC is currently drafting its next 20-year Comprehensive Facilities Plan. The plan will address additional opportunities and climate resiliency benefits of expanded recycled water use. In partnership with the construction aggregate companies, this could include restoration of gravel pits to functional wetland treatment systems to store water when it is most beneficial to divert discharges to the river while at other times diverting discharges to recycled water production when most beneficial to community uses.

This project will continue as a permanent asset of the regional wastewater treatment program and is poised for near-term and long-term ongoing expansion of uses and facility capacity. Once launched, partner users can adopt recycled water as a permanent asset which they can rely on for economic development activities and urban greenspace planning.

Sub-criterion A2.b: Environmental Benefits

Ecological Climate Change Resiliency Benefits.

The Willamette River is listed as water quality impaired year-round for temperature based on criteria for endangered salmon rearing and spawning (Willamette Basin Temperature Total Maximum Daily Load (TMDL), DEQ, 2006).

A key driver for implementing this project is to improve water quality for threatened salmon and steelhead populations through reducing temperature impacts on the Willamette River. This is accomplished by (1) reducing discharge of warmer treated wastewater effluent to the river, and (2) reducing withdrawals of cooler, freshwater from the McKenzie and Willamette Rivers.

Species, Habitats, and Stream Flow Benefits

This project results in environmental benefits to stream temperature for threatened Chinook salmon (Oncorhynchus tshawytscha) and steelhead (Oncorhynchus mykiss) in the Willamette River form the MWMC's permitted point of discharge at Willamette River mile (RM) 178 downstream to RM 119 (the point of maximum temperature impact in the upper Willamette basin as identified by the Oregon Department of Environmental Quality). This 59-mile reach is complemented by water withdrawal offsets at the drinking water intake at RM 15 of the McKenzie River, which is tributary to the Willamette at RM 176. Therefore, a total of 74 miles of river habitat for threatened salmon and steelhead benefits from this project.

This project will divert up to 1.3 MGD of wastewater effluent from discharge, which during the October salmon spawning season equates to approximately 35 million kilocalories per day of thermal loading reduction on the Willamette River. This does not include any thermal benefits of retaining more freshwater instream. This heat load represents approximately 20% of the MWMC's reduction needed under the Willamette Temperature TMDL during October.

In review of ESA compliance for the project, the MWMC determined the below list of threatened/endangered species habitats may be present in the project area, as identified by USFWS, NOAA, or the Oregon Biodiversity Information System.

- Monarch Butterfly (Danaus plexippus)
- Evening Grosbeak (Coccothraustes vespertinus)

- Wrentit (Chamaea fasciata)
- Great Blue Heron (Ardea Herodias)
- Bald Eagle (Haliaeetus leucocephalus)
- Steelhead (Oncorhynchus mykiss)
- Chinook Salmon (Oncorhynchus tshawytscha)
- Bull Trout (Salvelinus confluentus)

The MWMC recycled water project supports a broader effort by the MWMC to protect the Willamette River's water quality and ecosystem. The MWMC is currently (from 2023 through 2027) restoring approximately 40 acres of riparian shade trees for temperature and habitat benefits in the upper Willamette tributary systems. While the MWMC's regulatory need to mitigate temperature, impacts is being addressed through these watershed restoration projects to ensure cool water in fish habitat, additional environmental benefit can be gained by diverting treated wastewater to beneficial recycled water uses and reducing the total heat load on the river. The efforts will indirectly benefit all the identified species through improvements to aquatic and terrestrial/plant habitats.

Impacts on Endangered Species Listing Status

This project will contribute to the overall health of the watershed including maintaining fish habitat by reduction of temperature impacts on the Willamette River's salmon habitat.

Sub-criterion A2.c: Other Benefits

- **Will the project assist States and water users in complying with interstate compacts?**

This project supports better water resource management in the Willamette River basin. In 1918, congress ratified the Columbia River Compact between Oregon and Washington covering the concurrent jurisdiction of Columbia River fisheries. The Columbia River Compact jurisdiction includes the Columbia River from the mouth at the Pacific Ocean upstream to the McNary Dam at Columbia River RM 292.5. The Willamette River discharges into the Columbia River at RM 101, inside the Columbia River Compact fish management boundaries.

The Willamette River a major tributary of the Columbia River. The Willamette River Basin is the largest watershed in the state of Oregon, covering more than 11,500 square miles (12 percent of the state of Oregon) and provides the Columbia with approximately 15% of its annual discharge volume. The Willamette River is identified as a designated Management Area inside the Columbia River Compact.

- **Will the project benefit multiple sectors and/or users (e.g., agriculture, municipal and industrial, environmental, recreation, or others)? Describe the associated sector benefits.**

Multiple Sector Project Benefits

This project is exciting for the multiple sectors of the community it benefits. Briefly, these include:

- Industrial – secures a water supply covering 100% of drought mitigation need to ensure economic sustainability and growth.

- Municipal – reduces water demand stressors during peak season water delivery needs and provides a more sustainable, cost-effective water source for irrigation of public greenspace.
- Environmental – improves water quality and habitat outcomes for the Willamette River. Provides a drought-proof irrigation source to maintain green infrastructure assets (like stormwater treatment swales and urban tree canopy).
- Recreational – retains more freshwater flows instream and improves water quality of the Willamette and McKenzie Rivers at the urban interface, where recreational use, largely for fishing and floating, are popular community assets.

Benefits to Larger Sustainability Initiatives.

Statewide Initiatives. This project's goal is a priority under multiple plans and strategy documents that address sustainability. Development of Class A Recycled Water Use is identified as an Oregon Priority in the Oregon Integrated Water Resources Strategy (OWRD, 2017), Governor's Executive Order 05-04 (March 2005), and SB 212 (2001), as well as in Oregon's 100-Year Water Vision.

Advancement of Recycled Water Use Adoption. The MWMC Class A Recycled Water Facilities project has been strategically planned to best introduce and adopt recycled water use in the community. The initial end users include the construction aggregate companies (Delta Sand & Gravel and Knife River) and Eugene Parks & Open Space Division. Both user groups are poised for immediate adoption of recycled water in low-risk applications for stakeholder acceptance but are also poised to rapidly expand recycled water use once familiarity with and general acceptance of recycled water builds among stakeholders. The MWMC project is being widely discussed as an example among statewide stakeholder groups on the barriers to funding, permitting, and implementation for recycled water use in Oregon. Successful implementation of the MWMC project will serve a pivotal role in broader adoption and implementation of water recycling in Oregon.

Seismic Resiliency. The MWMC recently completed a resiliency planning study, and this project will fulfil recommendations to reinforce the recycled water storage structure (seasonal high-rate chlorine contact basin) for seismic resilience. This directly ties into the Oregon Resilience Plan: Reducing Risk and Improving Recovery for the Next Cascadia Earthquake and Tsunami (2013; see p. 203). This state sponsored collective project prioritizes seismic resilience is a priority for water and wastewater systems.

- **Will the project help to prevent a water-related crisis or conflict? Is there frequently tension or litigation over water in the basin?**

Water-Related Crisis or Conflict Resolution Benefits.

Western Oregon has historically been renowned for rain and having abundant water supplies despite a seasonally drier summer period (unlike more arid parts of eastern Oregon, which has struggled with century-old water conflicts). Unfortunately, the historical conditions have changed over the past two decades, with the summer seasons becoming hotter and drier, and winter seasons capturing less mountain snowpack as reserves for the dry season. The project

area has incurred three governor-declared droughts since 2010, and climate tracking databases show more prevalent and longer drought conditions across the area in general.

In 2007, 2018, and 2020 environmental groups filed lawsuits against the U.S. Army Corps of Engineers over management of the water under their control behind their dams and inside their Willamette Valley Project required for protected species river flow volumes.

Water availability for human use has also been contested recently. In 2016 the City of Salem sold part of its water right to the farther downstream City of Hillsboro, which is roughly fifteen miles from the Willamette River in the Tualatin Valley. The Tualatin Valley area is one fastest growing metropolitan areas in Oregon, where access to additional Willamette River water is underway through new 30-plus mile water delivery pipeline.

In 2023 the Oregon Secretary of State issued an Advisory Report on the lack of water availability planning and water security in the state. The report outlines Oregon water policy conflicts pointing to prioritizing water access for senior water right holders and not fully accounting for the complexity of water as a finite resource or its relationship to ecosystem health as barriers to updating water availability and insecurities management.

It is not expected that the proposed project will have a measurable impact on the issues highlighted above. However, it is an important step in the right direction augmenting water availability in the Willamette River with Class A recycled water for multiple uses.

Evaluation Criterion B—Planning and Preparedness (NOFO E.1.2)

This project was identified, developed, and supported by multiple planning efforts and studies over the past 10+ years. The MWMC conducted a three phase, consultant-supported, internal planning effort to evaluate its best options and alternatives for reducing thermal load on the Willamette River and for implementing recycled water for community use. As an outcome of identifying the proposed project for implementation, the local drinking water utility (EWEB) and the Eugene/Springfield natural hazard planning team both identified the MWMC Class A recycled water project as important community asset for conservation of drinking water and for drought preparedness. Several of the key studies and plans that support the project are:

- MWMC Facilities Plan (CH2M Hill/MWMC, 2004) – initial recommendation for adopting recycled water use projects in the 20-year capital improvement plan.
- Recycled Water Program Planning - Phase 1, Conceptual Alternatives Evaluation, Findings and Recommendations Report (MWMC, 2012) – stakeholder survey and technical evaluation process recommending advancing construction aggregate and MWMC onsite recycled water use feasibility studies.
- Industrial Aggregate Recycled Water Use Planning Study (MWMC, 2013) – a component of the MWMC Phase 2 study.
- Phase 2 Recycled Water / Thermal Load Mitigation Study, Final Report, 2012-2014 (MWMC, 2017) – feasibility study recommendations to advance Class A recycled water use at construction aggregate and city facilities while adopting large-scale watershed restoration for river temperature reduction.

- EWEB Water Conservation and Management Plan (GSI Water Solutions, 2018) – identifies EWEB's collaborative role in developing MWMC's recycled water use for community use.
- Eugene-Springfield Area Multi-Jurisdictional Natural Hazards Mitigation Plan (Eugene, Springfield, EWEB, Rainbow Water District, SUB, 2020) – identifies pursuing a water reuse partnership with MWMC as a drought mitigation measure.
- Class A Recycled Water Facilities Conceptual Design Report (Kennedy Jenks, 2021) – a component of the MWMC Phase 3 implementation planning study to recommend the preferred design alternative for full design and construction.

This planning lineage documents the thorough assessment, planning, and recommendations leading to the project's inclusion in the Natural Hazards Mitigation Plan, identifying drought mitigation as the leading driver for implementing the project. The answers in this section are therefore based on the Natural Hazards Mitigation Plan.

The FEMA-approved 2020 Eugene-Springfield Area Multi-Jurisdictional Natural Hazardous Mitigation Plan (E-S NHMP) is available on the City of Eugene and the City of Springfield websites.

How Drought is Addressed in the Natural Hazards Mitigation Plan.

The plan identifies Drought as a High Risk, just below Very High Risk ranked Earthquake and Geomagnetic Disturbance hazards. The plan identifies two mitigation actions to address drought: (1) recycled water use and (2) drought-resistant landscaping – both of which this project supports.

The plan describes the cause and characteristics of drought, specifically as manifested as meteorological, hydrological, and agricultural drought. Climate change impacts are identified, including lower precipitation, warmer temperatures, and decline in snowpack increasing risk of prolonged, severe, droughts. The plan further addresses the increasing historical occurrence of droughts, with three droughts since 2010 impacting 100% of Lane County, and the high vulnerability of drought due to its impact across a wide demographic and geography.

Finally, the plan addresses that the region has high capacity to mitigate drought due to the slow onset of the hazard and long-term planning such as recycled water use and drought resistant landscaping to prepare for drought.

Drought Focused Elements of the Plan

The plan identifies the University of Nebraska National Drought Mitigation Center for tracking drought conditions at the watershed basin level. The tracking tool measures drought intensities with the D0 (abnormally dry) through D4 (exceptional drought) categories. It correlates increasing droughts and drought intensities with climate change impacts, particularly changes to snowfall and snowmelt which leads to local water supplies being out of sync with the area's typical water demands.

To address drought, the plan identifies recycled water use, drought-resilient landscaping, and establishment of emergency water distribution and mobile water treatment facilities.

Plan Identified Impacts of Climate Change on Water Resources and Drought.

The plan specifically considers the impacts of climate change on drought conditions, noting projections that by 2030, the area can expect average temperature increases of 2-4°F, reduced precipitation in spring, summer, and fall, and increase in extreme heat incidents. The plan also identifies reduction in precipitation as snowfall and earlier snowmelt, negatively impacting availability of water supply, especially into summer months.

Date of Natural Hazards Mitigation Plan Development and Updates

The first edition of the plan was finalized in December 2009 and is under a 5-year update cycle, consistent with Federal Emergency Management Agency (FEMA) requirements. The most recent update was published in January 2020, following a 2014 update.

Collaborative Processes of the Natural Hazards Mitigation Plan.

The multi-jurisdictional plan was funded and co-developed by five local agencies: the Cities of Eugene and Springfield along with the local drinking water utilities EWEB, Rainbow Water District (RWD), and Springfield Utility Board (SUB).

Stakeholder Input to Plan Development

In addition to the five local agencies (Cities of Eugene and Springfield and drinking water utilities EWEB, Rainbow, and SUB) participating in plan development, members of the Lane Preparedness Coalition Natural Hazards Mitigation Plan subcommittee also contributed time and expertise to the development of the plan. Individuals from more than 20 businesses, nonprofits and government agencies were consulted for their expertise and perspective during the vulnerability assessment process.

A complete list of these participants can be found in Attachment A, Planning and Public Process of the E-S NHMP. the Project Team consisted of emergency trained representatives from each authoring agent, a Steering Committee made up of utility and city department specialists, and an Advisory Board of regional technical experts public involvement included meetings, surveys, and informational campaigns.

As stated in the plan, “at least once a year the Cities will host presentations for the public to provide information, describe progress toward implementation, and collect feedback on the E-S NHMP. Presentations through the Eugene-Springfield Community Emergency Response Team (CERT) program or Lane Preparedness Coalition meetings hosted quarterly will provide engagement opportunities for the interested public. During the last two years of the NHMP update cycle, each jurisdiction will hold a minimum of one E-S NHMP event. For the City of Eugene this also includes National Flood Insurance Program (NFIP) and Community Rating System (CRS) outreach. During these events, the community will be updated on mitigation projects, and given an opportunity to provide input on mitigation items.”

MWMC Involvement in Development of the Natural Hazards Mitigation Plan

The MWMC is a local partnership of the City of Eugene, the City of Springfield, and Lane County. While the MWMC is not a named collaborator of the E-S NHMP, representative staff from the cities contributed to the plan and advanced MWMC perspectives and project opportunities.

How the Proposed Project Supports the Natural Hazards Mitigation Plan's Drought Assessment

The MWMC Class A Recycled Water Facilities project is identified as Mitigation Action No. 2, with the Mitigation Name of "Water Reuse" and Mitigation Action of "pursue a water reuse project with MWMC" (E-S NHMP page 1-10, Table 1-3). This project directly supports the alternative water source and drought-resistant landscaping recommendations of the plan.

Identification of the MWMC Project in the Natural Hazards Mitigation Plan Drought Actions

The MWMC Recycled Water Use project is listed as Mitigation Action No. 2. The Action Item is listed on page 6-2 of the plan and notes the implementation lead is the MWMC for Class A Recycled Water production and distribution. The project is ranked as a high correlation to hazard with emphasis on varied use and developing community awareness and familiarity with recycled water. Additionally, the Action problem statement describes the state's worsening drought conditions and need for immediate action. The outlined recommended mitigation action includes building community awareness of recycled water to foster expanded use.

Fulfillment of Natural Hazards Mitigation Plan Goals

The action items table in Attachment A of the 2020 E-S NHMP identifies the following need, which this project helps to implement:

Problem: The majority of Oregon has been in a drought for the past several years. Though mandatory water rationing has never been instituted in the Cities of Eugene and Springfield, it has become apparent water conservation measures need to be taken now to prevent/delay public water ration in the future.

Mitigation Action No. 2 in the 2020 E-S NHMP identifies the MWMC Class A Recycled Water Demonstration Project. Note that this project is framed as demonstration for the purposes of demonstrating recycled water use for wider-scale adoption in the coming decade(s). The project itself is not a pilot project but is designed specifically to providing up to 1.3 MGD of Class A recycled water to committed users, thereby demonstrating safe and reliable use of recycled water at scale.

Relevant Sections of the Natural Hazards Mitigation Plan

Attached in Attachment A are relevant sections of the NHMP as follows:

- Title page
- Table 1-3 (pp.1-10 to 1-12) Mitigation Action Items Summary
- Section 2.2, Drought
- Attachment A: NHMP 2020 Action Items Table (pp. 6-1 to 6-15).

Evaluation Criterion C—Severity of Actual or Potential Drought or Water Scarcity Impacts to be addressed by the Project (NOFO E.1.3)

Drought and Water Scarcity Conditions in the Project Area

Lane County has experienced three drought years in the past 12 years from 2010-2021, which, along with one previous drought in 1992, are the only declared droughts for the county in over

30 years of formal drought monitoring. In the past 100 years, only two other significant droughts have impacted western Oregon – dating back to 1929 and 1977. Oregon, as a whole, started to experience droughts in the more arid areas of the state in the early 1990s and again in the early 2000s, the more recent of which impacted western (i.e., non-arid) counties adjacent to Lane. In three consecutive years from 2015-2017, the Oregon governor issued executive orders for drought preparedness. The National Drought Mitigation Center at the University of Nebraska-Lincoln tracks drought conditions across the country. This tracking data shows that 100% of Lane County (location of the project) experienced severe droughts in 2001, 2014, 2015, and 2021. As a result of these increasing drought conditions, local river flows have exhibited lower flow conditions for longer periods of time. The Willamette River at RM 178 (project location) has dropped below its instream flow water rights (of 2,000 cfs to protect habitat) on a more regular basis in past decade, jeopardizing water availability for other users – including the construction aggregate industries that will be provided recycled water under this project.

Additionally, the McKenzie River, which is a tributary to the Willamette River at RM 176, is the source of Eugene's drinking water at RM 15 of the McKenzie. The McKenzie River has an instream flow right of 1,025 cfs and has a historical 10-year low flow statistic of 2,187 cfs – meaning that approximately half of the river flow is protected for habitat during low flow conditions, which are becoming more frequent. EWEB's drinking water withdrawal rights on the McKenzie River are 78.8 MGD (122 cfs), meaning that of the approximately 1,200 cfs non-protected flows during low flow conditions, EWEB could withdraw nearly 10% of that flow. The McKenzie River is an important river for the Willamette River, with state hydrologists estimating that up to 30% of the Willamette River's downstream at Portland, over 100 miles away, is from the McKenzie River. The Willamette is an important source of water for many communities and the agricultural sector. The Willamette Valley is home to approximately 70% of Oregon's population.

Existing and Historical Local Drought Conditions. Drought conditions in Oregon, including low river flows and drying vegetation, have increased in frequency over the past 20 years, with Lane County drought declarations occurring in 2010, 2015, and 2021. In the prior 50 prior years, there was only one previous drought declaration (in 1992). This trend is consistent with climate model forecasts provided by the state of Oregon, indicating longer, drier dry seasons and more frequent, more extreme droughts in the future. As tracked by the National Drought Mitigation Center at the University of Nebraska-Lincoln's Drought Monitor (droughtmonitor.unl.edu), Lane County's drought conditions in 2001, 2014, 2015, and 2021 ranked as D3 ("severe drought").

D3 drought conditions are defined by NOAA as "an area where major crop and pasture losses are common, fire risk is extreme, and widespread water shortages can be expected requiring restrictions." The metrics for drought declarations and ranking vary between state of Oregon and the National Drought Mitigation Center; however, there is convergence recently (2015 and 2021) as worsening drought conditions aligned under both metrics. The 2021 average June temperature was 8.2 degrees above normal setting an all-time high at 111 degrees F. This early heat wave is one example of a quickly changing climate that has seen the State of Oregon declare drought more in recent years than ever before.

Local Drought Projections Related to Climate Change. Four severe droughts have occurred in Lane County since 2000. To determine better analysis and projections for local drought concerns, some of the nation's top water scientists, lawyers, and policy-makers convened in Eugene on September 30, 2015 for the Drought in the American West: A Symposium on Law, Policy and Science to discuss the severe drought the area was experiencing. They concluded droughts in Oregon are likely to become more frequent and severe, largely due to climate change. Based upon these professional considerations, the probability for future severe droughts is projected to be high. These projections are included in the E-S NHMP. Multiple other studies and reports on climate change impacts to western Oregon all project longer, drier summer conditions, less snowpack, earlier snowmelt, and flashier, heavier winter precipitation events, leading to loss of natural water storage and releases and therefore even lower river flows and water supply availability in summer.

Potential Drought Impacts to Specific Sectors in the Project Area if No Action is Taken

As identified in the E-S NHMP, the actions to be taken for drought mitigation and preparedness include this project (Class A recycled water use adoption), implementation of drought-resilient landscaping, development of secondary drinking water supply sources, and deployment of mobile water treatment units and emergency water distribution facilities. Despite the other actions identified, no action on adoption of this project (Class A recycled water use) will have impacts to specific sectors in the project area. The recycled water project will provide up to 1.3 MGD of an alternative water source, use of which maintains more freshwater instream for essential habitat and downstream water users, ensure plentiful supply for irrigation of public greenspace to maintain environmental functions and reduce fire risk, ensure industrial users of water supply during times of drought, and reduce cost and infrastructure burdens on other water facilities. The 1.3 MGD of supply made available by this project represents 2% of the total peak water supply made available by EWEB (drinking water utility) and the water rights of the construction aggregate companies, combined.

Social Concerns. Absent this project, social concerns include (1) increased risk of fire hazard due to drying/inadequately watered street trees, (2) worsening heat island impacts, especially on disadvantaged communities, from loss and lack of urban tree canopy without adequate watering, (3) exacerbated risk and water quality conditions from excess river temperatures and lower flows, which contribute to low dissolved oxygen levels and harmful algal blooms, as well as greater risk for water-borne disease, impacting recreational use and enjoyment of the river. Access to the river is an important climate change resiliency asset as citizens seek refuge from heat. The local drinking water utilities have been developing second source and emergency water supplies. The local area will be impacted less by water availability, but rather more by impacts to water quality, habitat, and conservation measures to ensure critical drinking water supplies are available. Curtailment of irrigation is typically a first course of action during times of drought, but that action is at the detriment of the heat, fire, and function concerns identified.

Potential Environmental Impacts. In absence of this project, low river flows and warmer river temperatures are ongoing environmental impacts to salmonid habitat. These conditions will become exacerbated under climate change impacts. Other environmental impacts include greater risk to water quality related to temperature, including harmful algal blooms. There is a

strong nexus between this project and the health of the urban forest, particularly for street trees and eventually for maintenance of other public green infrastructure, such as stormwater treatment swales, during dry summer months. Loss of green infrastructure function can result in lower rainfall percolation to soils and groundwater, increased runoff and pollutant loading to local streams, and lower stormwater retention capacity and increased flooding risk.

Local/Economic Losses Associated with Water Conditions during Drought. To date, the project region has avoided economic loss impacts due to drought. However, the construction aggregate companies have had to negotiate water trades and temporary solutions to water supply availability, including purchasing of drinking water, to maintain operations during drought. The project partners, Delta Sand and Gravel and Knife River, are recognized leaders and vital contributors to the local and regional construction economy with a major impact to construction in Lane County. In 2022 construction was forecast to be a $100 million dollar industry with transportation alone exceeding $90 million in Lane County.

Ongoing and forecasted seasonal drought conditions are likely to threaten the ability to maintain green infrastructure, risking loss/reduction of the urban tree canopy, increased fire risk, and reduced property values.

Other Water-Related Impacts. The aggregate industry water rights associated with this project are junior to instream flow rights that are not being met during drought conditions and other periodic events. The Oregon State Drought Declaration Process can temporarily restore the water rights for water rights holders, but this is not a long-term solution to the problem. At best, the OWRD has estimated that the construction aggregate companies may be eligible for "credit" for withdrawn water used onsite that eventually returns to the river through settling ponds – but at least 10% of the withdrawn water is consumed during operational practices, and therefore the water right conditions cannot be met without compensating for the consumptive use – either from recycled water or purchasing of drinking water. Use of drinking water has costly impacts to the industries as well as negative impacts to local rivers and water distribution infrastructure for the increased demand. Securing recycled water use will ensure this important economic driver in our community remains viable and operational to the extent needed to ensure community development needs.

Evaluation Criterion D- Presidential and DOI Priorities (NOFO E.1.4)

Disadvantaged and Underserved Communities (NOFO E.1.4.1)

Climate and Economic Justice Screening

Using the White House Council on Environmental Quality's interactive Climate and Economic Justice Screening Tool, (https://screeningtool.geoplatform.gov/en/#3/33.47/-97.5) the MWMC identified twenty-one individual underrepresented communities that are served by the MWMC wastewater treatment facilities. A total of 92,710 individuals served by the MWMC wastewater treatment service area are identified as overburdened, underserved, and disadvantaged. The MWMC serves a Eugene/Springfield metropolitan population of approximately 250,000. The recycled water project has benefits that extend to all of the MWMC's ratepayers and to the local community beyond the MWMC's service area.

The Identified census tract populations representing underrepresented communities include: 41039001803, 41039001902, 41039001903, 41039001904, 41039002101, 41039002102, 41039002504, 41039002600, 41039002700, 41039002800, 41039003201, 41039003301, 41039003302, 41039003400, 41039003900, 41039004000, 41039004100, 41039004200, 41039004300, 41039004403, and 41039004502.

According to Eugene census tract information from 2017, the tract in which the project is to be constructed is in the "low" minority population category of 9.3% - 21.2% Latino and/or minority population. This tract also is the low median household income (per 2011 City of Eugene Neighborhood Analysis report) of $25,000 - $34,999 but above the poverty level of $10,000.

Benefits Provided by the Project to Disadvantaged/Underserved Communities

The project will benefit the entire 250,000 person Eugene/Springfield community served by the MWMC. The benefits of this project will reach a broad spectrum of neighborhoods through the construction aggregate industry economic impacts including supporting local employment of citizens of all incomes and through the street tree watering program which will be employed city-wide including areas of low-income. The City of Eugene has targets for establishing more street trees in under-served communities which are more impacted by the costs of climate change and livability standards. This project complements those goals by ensuring an ample irrigation source is available during times of drought.

Tribal Benefits (NOFO E.1.4.2)

Project Benefits to Tribes

The MWMC project area is within the ancestral lands of the Kalapuya, a tribe of the Confederated Tribes of the Grand Ronde. This area was part of the 1855 Treaty with the Confederated Tribes of the Willamette Valley. The Grand Ronde community and reservation is located outside of the project area. Although there are no targeted or identified impacts to tribes, the project has a strong salmon-habitat protection component which is important to treaty fulfillment and tribal culture. One of the overall benefit considerations of recycled water as an alternative water resource is to reducing temperature impacts on the river for salmon-protection goals.

Project Support of the Bureau of Reclamation's Tribal Trust Responsibilities

The MWMC proposed project aligns with BOR Indian Trust Assets Secretarial Order No. 3206 – American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the Endangered Species Act. Order 3206 outlines responsibilities including protecting species which BOR and the MWMC are both engaged in along the Willamette River through water availability and temperature criteria projects. The MWMC project is designed to address water resource management needs, specifically to Willamette River flows and temperature concerns.

Evaluation Criterion E- Readiness to Proceed and Project Implementation (NOFO E.1.5)

Implementation Plan and Schedule of the Proposed Project

The scope of this project is construction phase implementation and startup. This project has been developed over the past 10+ years through multiple phases of alternatives evaluations, feasibility studies, and conceptual design work. The MWMC is currently in the final post-

engineering design phase of this project and is conducting onsite pre-construction equipment and process testing to ensure construction phase readiness to proceed. 100% engineering design drawings were finalized in March 2022. The MWMC is prepared to be shovel-ready at time of grant award. This project will commence with pre-award construction bidding and contracting tasks. All environmental, cultural resource, land use, and other regulatory compliances will be completed prior to the project as part of the MWMC's project readiness to qualify for Clean Water State Revolving Fund financing.

Securing funding for this project is critical to the launch of the project, as there is not an immediate wastewater permit regulatory driver to implement the project using ratepayer funds. Rather, the drought mitigation need compels the MWMC to be a water resource partner in the community as soon as possible. Securing of loans and funding is needed for the MWMC's authorization by resolution to proceed with construction contract execution. The construction phase tasks of this project are as follows.

Project Task/Activity	***Planned Start Date***	***Planned End Date***	***Duration***
Task 1: Construction Bidding and Contracting	*4/16/24*	*10/31/24*	*6.5 months*
Task 2: Construction and Permitting	*11/14/24*	*01/08/26*	*13.5 months*
Task 3: Facilities Commissioning (Startup and Testing)	*01/12/26*	*4/15/26*	*3 months*
Total Construction Phase	***04/16/24***	***4/15/26***	***24 months***
Task 4: Initial Implementation	*05/01/26*	*10/31/26*	*6 months*
Total Project Construction & Implementation	***04/16/24***	***10/31/26***	***30.5 months***

Task 1. Construction Bidding and Contracting:

a) Task schedule: 04/16/24 to 10/31/24 (6.5 months)
b) Description of key task activities: Preparation and solicitation of bid documents, authorization of contract by the MWMC, and execution of construction contract.
c) Permits/Regulatory Approvals Required: Any final federal or state compliance assurances.

Task 2: Construction and Permitting:

a) Task schedule: 11/14/24-01/08/26 (13.5 months)
b) Description of key task activities: All site work, demolition and removal, construction, and acquisition of equipment. Construction activities include yard piping, tertiary filter pump station, UV disinfection unit and hypochlorite disinfection facilities, recycled water pumping station, hydropneumatics tank, truck fill station, electrical building, seismic retrofit of the storage basin, and related electrical and instrumentation.
c) Permits/Regulatory Approvals Required: City of Eugene building permit.

Task 3. Facilities Commissioning (Startup and Testing):

a) Task schedule: 01/12/26-04/15/26 (3 months)
b) Description of key task activities: Startup and testing of Class A disinfection facilities and all recycled water storage, pumping, and distribution lines. Final completion of any construction punch list items identified upon successful startup and testing adjustments.
c) Permits/Regulatory Approvals Required: DEQ inspections/approvals of facility for use.

Task 4: Initial Implementation:

a) Task schedule: 05/01/26-10/31/26 (6 months)
b) Description of key task activities: Delivery of recycled water via conveyance pipelines to points of use and ongoing monitoring and performance measures for consistent pressure, quantity, and water quality.
c) Permits/Regulatory Approvals Required: DEQ approved and publicly amended NPDES permit updated Recycled Water Use Plan for Class A recycled water use, including necessary user agreements and operating plans and registration of recycled water use with Oregon Water Resources Department.

Required Permits and Approvals

- **Federal and state environmental/cultural regulatory compliance assurances**. The MWMC is currently completing all pre-construction environmental review related cross-cutting compliances in fulfillment of the Oregon Clean Water State Revolving Fund loan requirements. There may be newly identified, or additional assurances needed, or outstanding assurances in progress, at the time of construction bidding. Any such assurances should be completed early in the bidding process phase of April-July 2024.
- **Construction permit from City of Eugene**. This is a standard permit process for all building and construction projects to confirm compliance with building codes. This permit will be secured during the pre-bid process. The MWMC has previously consulted with the City of Eugene on conformance with the site Conditional Use Plan. Any such assurances should be completed before construction in the bidding process phase of April-October 2024.
- **Recycled Water Use Plan and recycled water use registration**. Prior to delivery and use of recycled water, a Recycled Water Use Plan for Class A recycled water use must be submitted and approved to the Oregon Department of Environmental Quality. Upon DEQ approval of that plan, the end uses of recycled water will be registered with the OWRD. The MWMC has a Recycled Water Use Plan for Class D recycled water for delivery and use on landscaping, processes, and agricultural fields currently owned and operated by the MWMC, in accordance with O.R.S. 537.131 -.132. The OWRD has assigned the MWMC Reclaimed Municipal Water Use Registration RM-220 to MWMC NPDES permit 102486. The Recycled Water Use Plan update and water use registration will be completed prior to the initial implementation after construction, during the bidding and construction phase from April 2024 through January 2026.

Engineering and Design Work Performed Specifically for Project

The following engineering design documents were produced in support of the project development:

- Class A Recycled Water Facilities Conceptual Design Report (Kennedy Jenks, 2021) – this study evaluated the project design needs and criteria, screened out fatal flaw issues and compared alternatives, and presented the pre-design report for the preferred design alternative for full design and construction.
- 30%, 60%, 90%, and 100% design submittal documents (100% submittal, Kennedy Jenks, 2022). This series of drawing sets and the final produced drawing set presents the full engineering specifications for every aspect of project construction, including preliminary bid documents.
- 90% opinion of probable construction cost (OPCC; Kennedy Jenks, October 2023 update). The 90% cost basis OPCC was initially produced in September 2021 and was updated in October 2023 to reflect current construction cost inflation indexes. A final updated OPCC will be produced in conjunction with preparation of final bid documents. The budget for this project is based on the October 2023 update of the OPCC.

Land Purchases Needed Prior to Project Implementation

No land purchases are associated with this proposed Class A recycled water project. All properties involved with project construction are owned by the MWMC, except for one vault location to be placed on adjacent parcels owned by City of Eugene and Delta Sand & Gravel.

New Policies or Administrative Actions Required for Project Implementation

No new policies or administrative actions are needed to implement the project. Authorizations are needed as discussed above addressing required permits and approvals. The administrative readiness of this project includes the following:

- MWMC's NPDES permit #102486 issued by the Oregon Department of Environmental Quality (DEQ), October 2022. This permit is effective 11/01/22 through 09/31/27 and includes authorizations for Class A recycled water use.
- MWMC Recycled Water Use Plan. The current MWMC Recycled Water Use Plan is authorized by DEQ under the MWMC NPDES permit for Class D recycled water use. Prior to project implementation, the Recycled Water Use Plan needs to be updated for Class A recycled water use and approved by DEQ under a public notice process.

Evaluation Criterion F—Nexus to Reclamation (NOFO E.1.5)

While the MWMC is not a tribal member and does not have a direct relationship with Reclamation related to water service, contract, or receipt of water, the MWMC has a role in water resource management in the Willamette River basin with a nexus to Reclamation interests.

The MWMC proposed project benefits waters included in the scope of Reclamation projects. While Reclamation's water projects are largely in eastern Oregon, Reclamation has specific responsibilities in the Willamette River basin associated with the 13 dams operated by the U.S. Army Corps of Engineers in the basin (see figure below). MWMC's Class A recycled water project aligns with several Reclamation studies, including temperature focused studies aligning with

benefits of the. In the lower Willamette River downstream from the MWMC project, Reclamation is responsible for temperature-related actions in the Palmer Creek and Tualatin watersheds.

Additionally, the Junction City Water Control District Long-Term Irrigation Water Service Contract Environmental Assessment & FONSI includes water from Amazon Creek, which is headwatered and courses through the MWMC service area. A principal component of the Junction City action is Reclamation "responsibilities related to the Long Tom River, the Willamette River Basin Project, and the overall Willamette River watershed."

Map of Reclamation Projects in Oregon and map of Willamette Basin Project Dams.

Evaluation Criterion G – Stakeholder Support for Proposed Project (NOFO E.1.6)

Demonstration of Stakeholder Support

Letters of support for this project have been provided by the primary recycled water user and water utility partners. Attachment B presents letters of support from the following partners:

- Delta Sand & Gravel
- Knife River
- City of Eugene Parks & Open Space
- Eugene Water & Electric Board (EWEB)

No cost share or other direct project contribution is included or expected for this proposed Class A recycled water project. The end user partners will be upgrading their own systems to be recycled-water ready.

Diversity and Extent of Stakeholder Support

Development of this project was informed by input received from a broad range of stakeholders representing various segments of the community. The project scope and end user groups were selected based on stakeholder feedback on the critical importance of initially ensuring meaningful, safe, and reliable uses of recycled water that can demonstrate to the greater community the opportunities for expanding recycled water use to more far-reaching applications – such as commercial buildings and public parks. The decision to include only low-contact, low-exposure initial first uses with both industrial and parks partners was based on the greater support for those uses.

The MWMC engaged these stakeholders through various meetings, surveys, and discussions from 2011 to 2013. Representative participants included local government and staff, state and local regulatory compliance agents, state water resource agencies, local water utilities, local public works and municipal/institutional sustainability managers, local government leaders, potential public, industrial, and agricultural water users, local watershed councils, river and habitat conservation organizations, economic development agency staff, land use and environmental watchdog groups, and local business leaders and community influencers.

The MWMC updated its recycled water program Communication Plan based on stakeholder responses. The plan presents the recycled water program vision, goals and objectives, identifies critical stakeholders and potential collaborators, and outlines communication goals and objectives. The plan identifies as communication pillars: recycled water use safety, security, sustainability, and stewardship – all key values identified through stakeholder engagement.

In 2022, in partnership with the national WaterReuse Association, Pacific Northwest chapter, the MWMC hosted a Summer Summit at the proposed project site for invited decision makers and interest groups. This multi-day event was well received, and the program flyer is included as Attachment C through this event, further excitement for launching the MWMC project was gained and the potential for a water reuse future was embraced. Attendees included wastewater commissioners, regulatory agency personnel, regional municipal, and county staff members, consulting firms, drinking water and wastewater utility staff, and others.

Project Budget (NOFO D.2.2.3)

This project has an estimated construction cost of $8,756,595. The MWMC has strategized to fund the project principally through a Clean Water State Revolving Fund loan in the amount of $4,000,000, matched one-to-one with Reclamation WaterSMART funding. The remaining $756,595 in project funds will come from MWMC capital programming budget, as indicated on Table B1.

Table B1. —Summary of Non-Federal and Federal Funding Sources

FUNDING SOURCES	AMOUNT
Non-Federal Entities	
1. Oregon Department of Environmental Quality, Clean Water State Revolving Fund	$4,000,000
2. Metropolitan Wastewater Management Commission	$756,595
Non-Federal Subtotal	$4,756,595
REQUESTED RECLAMATION FUNDING	$4,000,000

Budget Narrative

This construction project includes costs for design consultant support from project bidding through commissioning and startup, as well as construction contractor costs for all construction elements. The total project cost of $8,756,595 is represented on federal form SF-424C: Budget Information – Construction Programs. All design consultant costs are supported by the MWMC contract design fee schedule with Kennedy Jenks Consultants (Attachment B1). All construction costs are based on Kennedy Jenks' opinion of probable construction costs (OPCC; Attachment B2) based on October 2023 inflation factors and upper end of the cost estimate to forecast for construction work starting in late 2024 and completing in early 2026.

The construction budget based on upper range of OPCC is calculated by construction item and rounded to the nearest $1,000. Total estimated construction cost is rounded to the nearest $100,000, for a total estimated construction cost of $8,280,000. The calculations are presented below in Table B2.

Table B2. —Calculation of Construction Costs Based on Upper Estimate Range

Kennedy Jenks 90% Opinion of Probable Construction Cost	Level 1 Cost Estimate Range			
Construction Item	Oct. 2023 ENR Basis	-5% Low Range	+15% High Range	+15% High Range, Nearest 1K
Site Work and Yard Piping	$ 1,433,803	$ 1,362,113	$ 1,648,873	$ 1,649,000
Tertiary Filter Pump Station	$ 405,709	$ 385,424	$ 466,565	$ 467,000
UV Disinfection	$ 966,877	$ 918,533	$ 1,111,909	$ 1,112,000
Hypo Disinfection Improvments	$ 77,240	$ 73,378	$ 88,826	$ 89,000
Recycled Water Pumping Station	$ 534,373	$ 507,654	$ 614,529	$ 615,000
Hydropnematic Tank	$ 110,769	$ 105,231	$ 127,384	$ 128,000
Truck Fill Station	$ 98,855	$ 93,912	$ 113,683	$ 114,000
Electrical Building	$ 200,715	$ 190,679	$ 230,822	$ 231,000
Electrical & Instrumentation	$ 652,497	$ 619,872	$ 750,372	$ 751,000
Seismic Retrofit of HRCCB	$ 99,170	$ 94,212	$ 114,046	$ 115,000
Construction Subtotal	$ 4,580,008	$ 4,351,008	$ 5,267,009	$ 5,271,000
Contractor Indirects (@10% subtotal)	$ 458,001	$ 435,101	$ 526,701	$ 527,000
Contractor OH&P (@15% cumulative subtotal)	$ 755,701	$ 717,916	$ 869,057	$ 870,000
Estimate Contingency (@10% cumulative subtotal)	$ 579,371	$ 550,402	$ 666,277	$ 667,000
Bonds and Insurance (@2.5% cumulative subtotal)	$ 159,327	$ 151,361	$ 183,226	$ 184,000
Market Conditions Contingency (@10% cumulative subtotal)	$ 653,241	$ 620,579	$ 751,227	$ 752,000
Subtotal Construction with Indirects (rounded to $10K)				$ 6,852,000
Subtotal Constingencies (rounded to $10K)				$ 1,419,000
Estimated Bid Price	$ 7,185,649	$ 6,826,367	$ 8,263,496	$ 8,271,000
Total Estimate at nearest $100K (basis), nearest $10K (ranges)	$ 7,200,000	$ 6,840,000	$ 8,280,000	$ 8,280,000

The OPCC costs were further divided into cost categories by Kennedy Jenks Consultants to align with SF-424C budget categories. The individual cost breakdown for the SF-424C is displayed in Table B3 and the final roll-up of those costs is on Table B4. Pre-award bidding costs are characterized as “Other architectural and engineering fees” on the SF-424C.

Table B3. —Calculation of SF-424C Construction Costs

Pre-Award Costs				
Item #	Item Description	Count	Unit Cost	Total Cost
4p	Design consultant Task 7 - bidding documents	1	$ 27,916.00	$ 27,916.00
4p	Design consultant Task 8 - bidding assistance	1	$ 22,441.00	$ 22,441.00
Post-Award Costs				
4	Design consultant Task 13 - permitting assistance	1	$ 61,943.00	$ 61,943.00
4	Design consultant Task 16 - Project Inspection Support	1	$ 22,326.00	$ 22,326.00
4	Design consultant Task 9 - Construction period support services	1	$ 244,643.00	$ 244,643.00
4	Design consultant Task 10 - Startup and testing/commissioning	1	$ 97,326.00	$ 97,326.00
7	Site work - excavation, grading, and drainage, leveling and paving, and pipework.	1	$ 1,488,837.00	$ 1,488,837.00
8	Demolition and removal - removal of existing roadway, curbs, sidewalk and path.	1	$ 61,749.00	$ 61,749.00
9	Construction - UV system structure, electrical building, recycled water pump station structure, site piping, electrical infrastructure, instrumentation and controls.	1	$ 2,058,300.00	$ 2,058,300.00
10	Equipment - new pumps, UV disinfection equipment, chemical metering, hydropneumatic tank, bulk fill station	1	$ 1,317,312.00	$ 1,317,312.00
11	Miscellaneous - contractor indirects, overhead, bonds and insurance, and cost escalation.	1	$ 1,934,802.00	$ 1,934,802.00
13	Contingencies - 10% estimation and 10% market conditions contingencies.	1	$ 1,419,000.00	$ 1,419,000.00
Total Project Cost				**$ 8,756,595.00**

Table B4. —Final SF-424C Construction Costs

Item (p represents pre-award cost)	**Total Cost**
1p. Administrative and legal expenses	$0.00
2p. Land, structures, rights-of-way, appraisals, etc.	$0.00
4p. Architectural and engineering fees	$50,357.00
5p. Other architectural and engineering fees	$0.00
6p. Project inspection fees	$0.00
11p. Miscellaneous	$0.00
1. Administrative and legal expenses	$0.00
2. Land, structures, rights-of-way, appraisals, etc.	$0.00
3. Relocation expenses and payments	$0.00
4. Architectural and engineering fees	$426,238.00
5. Other architectural and engineering fees	$0.00
6. Project inspection fees	$0.00
7. Site work	$1,488,837.00
8. Demolition and removal	$61,749.00
9. Construction	$2,058,300.00
10. Equipment	$1,317,312.00
11. Miscellaneous	$1,934,802.00
13. Contingencies	$1,419,000.00
Description of Project: The project will design and construct new Class A recycled water production and distribution facilities to the MWMC's Eugene/Springfield wastewater treatment plant for drought mitigation, including 1.3 million gallon per day (mgd) of production capacity, ultraviolet (UV) lamp arrays to disinfect high-clarity filtered water, 1.0 million gallons of adapted seasonal storage capacity, and pumps and distribution piping to connect an expansion-ready 3.5 mgd capacity pipeline. Distribution system includes installation of a tanker truck fill station for public works project uses.	
Total Project Cost	**$8,756,595.00**

Environmental and Cultural Resources Compliance (NOFO D.2.2.4; H.1)

The MWMC has completed its own environmental and cultural resource review process in planning this project and finds no significant impacts or issues across all considerations. Internal reviews, in consultation with state and federal agencies, were conducted in 2014 as part of feasibility study work and in 2022-2023 as part of Clean Water State Revolving Fund (CWSRF) federal cross-cutting requirements. The MWMC's conclusions of no impact are due to the project's scope involving (1) largely use of existing infrastructure already in place, (2) new infrastructure within existing construction footprint of the wastewater treatment facility or on previously disturbed ground, and (3) no direct or indirect impacts to habitat, except for positive impacts to salmonid habitat.

Impacts on the Surrounding Environment

This project involves construction including excavation, earthwork, trenching, concrete structure forming, and conduit and pipeline placement, all of which could produce dust, fumes, noise, and sediment. Required practices, permitting, and MWMC contract requirements shall minimize these impacts. The project work impacts a very limited footprint of the wastewater treatment facility (refer to project site map) on previously disturbed ground. The project's extent is within 500 feet of the Willamette River, which hosts native salmonid fish and potential bankside nesting sites for birds. A visual survey for nesting sites, as well as consultation with Oregon Department of Fish and Wildlife, will be conducted to ensure no disturbance to habitat.

Presence and Impacts on Federal Threatened or Endangered Species

There are no identified adverse effects of the project on federally listed, threatened, or endangered species in the project construction or action area. The MWMC's internal review for ESA consultation identified the species listed in the table below as having potential habitat overlap with the project area. There are currently no known species presence in the immediate project area. The project will be protective of nearby riparian and river habitat important to threatened salmonid species and potential nearby bald eagle nesting sites. The Willamette River at River Mile 178 has an instream flow right to protect habitat during low flows and is habitat for threatened chinook salmon and steelhead. Bull trout are concentrated in upper headwaters to the Willamette River and are less prevalent in the lower reaches. The river reach affected by the project is designated by Oregon Department of Environmental Quality as salmon/steelhead spawning habitat from October 15 to May 15 and as salmon/steelhead rearing and migration habitat from May 16 to October 14 and is listed as water-quality impaired for temperature. This project helps mitigate river temperature and drought conditions by diverting warmer, treated recycled water to other uses and maintaining cooler, freshwater flows instream.

Federal Threatened or Endangered Species with Habitat Overlap with Project Area	Potential for Project Effect on Habitat
Monarch Butterfly (*Danaus plexippus*)	None
Evening Grosbeak (*Coccothraustes vespertinus*)	None
Wrentit (*Chamaea fasciata*)	None
Great Blue Heron (*Ardea herodias*)	None
Bald Eagle (*Haliaeetus leucocephalus*)	None
Steelhead (*Oncorhynchus mykiss*)	None except for water quality benefits.
Chinook Salmon (*Oncorhynchus tshawytscha*)	None except for water quality benefits.
Bull Trout (*Salvelinus confluentus*)	None except for water quality benefits.

Wetlands or Surface "Waters of the United States" Inside Project Boundaries

No waters of the United States, either surface waters or wetlands, are in the project boundaries. The project construction footprint primarily is greater than 500 feet from the adjacent Willamette River (which is a water of the US). However, some project activities and staging may be within 200 feet of the river. The recycled water uses implemented under this project include currently existing irrigation and industrial processes within 200 feet of the river that will be adapted to this alternative water resource. The Willamette River in this area is approximate 300 to 500 feet wide and carries approximately 1,300 cfs during low flow conditions to over 5,000 cfs during typical high flows and over 20,000 cfs during extreme flow events. While the project footprint has minor overlap with the mapped 500-year flood zone, the MWMC Disaster Mitigation and Recovery Plan (March 2020) indicates the entire wastewater treatment plant's operations would be restored to at least 90% functional within 3-7 days of a 500-year flood event, indicating very minimal impacts even under extreme floods.

Construction Date of Water Delivery System

The primary component of the water delivery system is the West Bank Trail Pipeline, which was constructed in 2011 to provide future recycled water service to the construction aggregate facilities. New onsite delivery systems will be constructed to connect to existing irrigation systems and to a tanker truck fill station.

Modifications or Effects on Irrigation System Individual Features

This project does not involve and modifications or changes to individual irrigation system. The project will involve retrofitting the MWMC's onsite irrigation system to include a backflow-protected, valved source pipe for recycled water use instead of drinking water.

National Register of Historic Places Listings or Eligible Within the Irrigation District.

This project does not involve an irrigation district. The Oregon State Historic Preservation Office previously reviewed the project footprint area for construction of the filters, basin, and pipelines that are being interconnected for this project and did not identify any historically significant structures present.

Known Archeological Sites in the Proposed Project Area

Per the Oregon State Historic Preservation Office review noted above as well as consultation with local tribal agencies, there are no known archaeological sites in the proposed project area.

Potential for Disproportionately High and Adverse Effect on Low Income or Minority Populations

The project will not adversely affect low income or minority populations. Disadvantaged communities are expected to benefit from the proposed project by ensuring street tree benefits and construction jobs are maintained during drought. Furthermore, the MWMC's seeking of federal grant funds and state loans ensures that ratepayer impacts are minimized in implementing this project.

According to Eugene census tract information from 2017, the tract in which the project is to be constructed is in the "low" minority population category of 9.3% - 21.2% Latino and/or minority population. This tract also is the low median household income (per 2011 City of Eugene Neighborhood Analysis report) of $25,000 - $34,999 but above the poverty level of $10,000.

Access Limitations or Impacts to Tribal Lands

Per consultation with local tribal agencies, there are no cultural site impacts from the proposed project, including any access limitations to ceremonial, sacred, or other tribal lands.

Contribution to the Introduction, Continued Existence, or Spread of Noxious Weeds or Non-Native Invasive Species

There is no potential for the project to contribute to or exacerbate noxious or non-native species. All construction work will occur on prior-disturbed land. Post-construction activities include proper regrading and seeding of any disturbed open ground using best practices to avoid noxious weeds.

Compliances with Federal Environmental and Historic Preservation Acts

National Environmental Policy Act (NEPA) Compliance (NOFO H.1.1)

Per the information identified in this section, the MWMC anticipates a Categorical Exclusion finding or Finding of No Significant Impact under NEPA.

National Historic Preservation Act (NHPA) Compliance (NOFO H.1.2)

Per the information identified in this section, the MWMC anticipates a finding of no impact under Section 106 NHPA.

Endangered Species Act (ESA) Compliance (NOFO H.1.3)

Per the information identified in this section, the MWMC anticipates a finding that the project is not likely to jeopardize the continued existence of any endangered or threatened species or destroy or adversely modify any designated critical habitat under Section 7 of the ESA.

Required Permits or Approvals (NOFO D.2.2.5)

Under the project technical proposal section on "Readiness to Proceed and Project Implementation," the plan for obtaining the permits and approvals necessary for the project are discussed. The necessary permits and approvals identified are:

- Building Permit (City of Eugene)
- Conditional Use Plan review/amendment (City of Eugene)
- Recycled Water Use Plan amendment (Oregon Department of Environmental Quality)
- Recycled Water Use Registration (Oregon Water Resources Department)

Additional Required Material:

Overlap or Duplication of Effort Statement (NOFO D.2.2.6)

The MWMC has strategized this funding proposal such that there is no overlap or duplication of effort of this project and any other active or anticipated proposals or projects in terms of activities, costs, or commitment of key personnel. Currently, the WaterSMART funding proposal is the sole federal source of funding for the project. It will be matched by state funding being applied for through the Oregon CWSRF program at a one-to-one (50%) match. If any other funding sources are identified and applied for, the MWMC will notify Reclamation's point of contact associated with this grant proposal.

CWSRF funding detail:

- Agency: Oregon Department of Environmental Quality (DEQ)
- Date funds were applied for: April 8, 2022
- Total funding request: $7,790,395
- Planned final loan request: $4,000,000
- Funding status: the MWMC is listed on DEQ's Fiscal Year 2024 Intended Use Plan dated 10/20/2023 as eligible for full funding, Final loan agreements are expected in late 2024 pending completion of all pre-lending requirements.

Conflict of Interest Disclosure (NOFO D.2.2.7)

The MWMC, after review of 2 CFR § 1402.112, 2 CFR 200.112, 2 CFR 200.318, and 43 CFR part 18 and 31 U.S.C. 1352, hereby provides notification that all requirements contained within each regulation have been reviewed and shall be met in the course of project implementation. Specifically:

- 2 CFR § 1402.112: The MWMC will take all appropriate steps to avoid conflict of interest, including procurement processes internal and external conducted under contract.
- 2 CFR 200.112: The MWMC is not aware of any potential conflict of interest issues in relationship to the WaterSMART program or the MWMC Class A Recycled Water Facilities project.

Uniform Audit Reporting Statement (NOFO D.2.2.8)

A Single Audit report was not required of the MWMC for the most recent reporting year.

SF-LLL Disclosure of Lobbying Activity (NOFO D.2.2.9)

A SF-LLL: Disclosure of Lobbying Activities form is attached in the online application package documenting that the MWMC does not participate in lobbying activities.

Letters of Support (NOFO D.2.2.10)

Letters of Support for the MWMC project titled Eugene Construction Aggregate and Public Greenspace Class A Recycled Water Facilities project are included in Attachment B.

Official Resolution (NOFO D.2.2.12)

The MWMC adopted Resolution 23-12 on October 13, 2023, in readiness to receive funds awarded under the Bureau of Reclamation WaterSMART grant program per the required resolution statements. MWMC Resolution 23-12 is provided herein as Attachment D.

Letter of Funding Commitment (NOFO D.2.2.13)

There are no letters of funding commitment necessary for this MWMC Class A Recycled Water Facilities project at this time. If this project is selected for award the MWMC will provide a letter of funding commitment outlining the Oregon DEQ CWSRF role in funding the Eugene Construction Aggregate and Public Greenspace Class A Recycled Water Facilities project.

Mandatory Federal Forms (NOFO D.2.2.1)

GG_LobbyingForm-V1.1 is provided as Attachment F.

SF424D-V1.1 is provided as Attachment G.